



**Revision list**

**What's new comX  
Communication Solutions DVD  
2017-03-1**

**Hilscher Gesellschaft für Systemautomation mbH  
[www.hilscher.com](http://www.hilscher.com)**

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# 1 Introduction

## 1.1 About this document

This manual informs about major changes regarding the new release of the **Communication Solutions DVD** for comX communication modules:

- firmware
- driver and toolkit,
- configuration software and tools, and
- documents.

## 1.2 List of revisions

Rev	Date	Name	Revision
6	2015-12-08	HH	What's new comX – Communication Solutions DVD 2015-12-1
7	2017-04-05	HH	What's new comX – Communication Solutions DVD 2017-03-1

*Table 1: List of revisions*

## 2 What's new comX - Communication Solutions DVD

This chapter describes the major changes from **Communication Solution DVD 2015-07-1** to **Communication Solution DVD 2017-03-1**.

### 2.1 Firmware

The following list compares the comX firmware versions on the Communication Solutions DVD.

Protocol	File name	Version 2015-07-1	Version 2017-03-1
CANopen Master	comxcom.nxf	2.11.3.0	2.14.01
CANopen Slave	comxcos.nxf	3.6.4.0	3.7.0.0
	M0505000.nxf	3.6.4.0	3.7.0.0
CC-Link Slave	comxccs.nxf	2.11.2.0	2.11.2.4
	M0509000.nxf	2.11.2.0	2.11.2.4
DeviceNet Master	comxdnm.nxf	2.3.17.0	2.4.0.0
DeviceNet Slave	comxdns.nxf	2.3.23.0	2.5.0.2
	M0507000.nxf	2.3.23.1	2.5.0.2
EtherCAT Master	comxecm.nxf	-	4.4.0.0
	comxecm.nxf Located in the folder Firmware\COMX\ Outdated versions\ECM V3	3.0.9.0	3.0.10.0
EtherCAT Slave	comxecs.nxf	4.2.12.0	4.6.0.1
	M060F000.nxf	4.2.12.2	4.6.0.1
	comxecs.nxf Located in the folder Firmware\COMX\ Outdated versions\ECS V2	2.5.34.0	2.5.42.0
EtherNet/IP Scanner	comxeim.nxf	2.6.7.1	2.9.0.2
EtherNet/IP Adapter	comxeis.nxf	2.7.13.0	2.11.0.6
	M060H000.nxf	2.7.20.0	2.11.0.6
Open Modbus/TCP	comxomb.nxf	2.5.11.0	2.6.0.2
	M060L000.nxf	2.5.13.0	2.6.0.2
POWERLINK Controlled Node	comxpls.nxf	2.1.39.0	2.1.53.0
	M060K000.nxf	-	3.2.0.1
PROFIBUS DP Master	comxdpm.nxf	2.6.13.0	2.7.0.0
PROFIBUS DP Slave	comxdps.nxf	2.7.2.0	2.9.0.1
	M0502000.nxf	2.7.7.0	2.9.0.1
PROFIBUS MPI Device	M0203000.nxf	2.4.2.0	2.4.3.0
PROFINET IO Controller	M020C000.nxf	-	3.2.0.0
	comxpnm.nxf Located in the folder Firmware\COMX\ Outdated versions\PNM V2	2.6.10.0	2.7.0.7

Protocol	File name	Version 2015-07-1	Version 2017-03-1
PROFINET IO Device	comxpns.nxf	3.5.43.0	3.10.0.9
	cx50pns.nxf	3.5.43.0	3.10.0.9
	cx51pns.nxf	3.5.43.0	3.10.0.9
	comxpns.nxf Located in the folder Firmware\COMX\ Outdated versions\PNS V3.4	3.4.44.0	3.4.47.0
	cx50pns.nxf Located in the folder Firmware\COMX\ Outdated versions\PNS V3.4	3.4.44.0	3.4.47.0
Sercos Master	comxs3m.nxf	2.1.5.0	2.1.9.0
Sercos Slave	comxs3s.nxf	3.1.19.0	3.4.0.0
	M060J000.nxf	3.1.19.1	3.4.0.0
VARAN Client (Slave)	comxvrs.nxf	1.0.7.1	1.1.0.0

Table 2: comX firmware versions on Communication Solutions DVD

The Changelog for each firmware is on the DVD in the directory:

DVD:\Firmware\Changelog

### 2.1.1 EtherCAT Master V4.4

The new EtherCAT Master version 4.4 is introduced. EtherCAT Master version 3.0 is still available.

Performance improvement and new functions with EtherCAT Master firmware V4:

- General performance improvement up to five times
- Improvements in network and individual Slave control, Slave diagnostics
- Support of CoE, SoE, EoE, FoE, ExtSync
- Support of redundancy in different, even complex topologies, including DC and DC resynchronization and hot-connect
- Minimum cycle time 250 µs

### 2.1.2 EtherNet/IP Adapter V2.11

New: Time Sync Object (0x43) added which is a prerequisite that the application can use CIP\_SYNC for clock synchronization.

### 2.1.3 Open Modbus/TCP V2.6

New: FC 43 is supported.

New: Configuration API for client functionality (Command table). The application can configure up to 16 server devices and up to 256 commands.

## 2.1.4 PROFINET IO-Controller V3.2

The new PROFINET IO Controller version 3.2 is introduced. PROFINET IO Controller version 2.7 is still available.

The PROFINET IO-Controller V3 offers several new features, which are not available in the PROFINET IO-Controller V2:

- IRT operating mode
- Optimized process data performance
- Automatic name assignment
- Automatic alarm acknowledgement
- MRP Client and Manager for media redundancy (MRP Manager requires a license)
- Requirements PROFINET Specification 2.3: e. g. Advanced Startup, MultipleInterfaceMode, network load requirements.

The process data handling in PROFINET IO-Controller V3 (process data image structure and process data timing) was reworked to achieve the required performance improvement and to support synchronized applications.

Removed features and incompatibilities:

- PROFINET IO-Controller V3 does neither support swapping of IO data nor automatic IOPS handling.
- The configuration parameters have been extended to meet the IRT configuration requirements. The structure of the configuration database has been changed. Therefore, the PROFINET IO-Controller V3 can not be configured with a configuration database of the PROFINET IO-Controller V2 and vice versa.
- The configuration API of PROFINET IO-Controller V2 are not supported by PROFINET IO-Controller V3. The new configuration API of PROFINET IO-Controller V3 is to be used.
- The PROFINET IO-Controller V3 does not support process data in little endian format. This feature was rarely used and has been removed for better performance.

For migration, a "Migration Guide PROFINET IO Controller Migrating from version 2 to 3" is available.

PROFINET IO-Controller firmware version 3 requires SYCON.net version 1.400 or higher. SYCON.net V1.400 (or higher) includes the PROFINET IO IRT DTM and the Topology Editor.

## 2.1.5 PROFINET IO-Device V3.10

Compared to version 3.5, PROFINET IO-Device version V3.10 offers the following improvements:

- netX 51/100-based devices support to 8 IO-ARs (up to 2 IO-ARs before, netX 50-based devices still support up to 2 IO-ARs)
- New: I&M5 supported
- netX 51-based devices support 250 µs minimum cycle time for RT\_CLASS\_3 (500 µs before)
- Read/write record with up to 8 KB, fragmented (1 KB before)
- Advanced Startup according to PROFINET specification 2.3 supported

## 2.1.6 POWERLINK Controlled Node V3.2

The new POWERLINK Controlled Node version 3.2 is introduced (for netX 51-based products).

POWERLINK Controlled Node version 3 (compared to V2) offers the following improvements:

- Performance improvements
- IPV4 support according to EPSG specification
- Multiple ASnd

## 2.1.7 Sercos Slave V3.4

New: Hot plug is supported.

New: Cross communication is supported.

netX 51-based devices offer more I/O data:

- Up to 284 bytes of cyclic produced data (including Connection Control and IO Status)
- Up to 276 bytes of cyclic consumed data (including Connection Control and IO Control)

## 2.2 Driver and toolkit

### **cifX Device Driver**

Windows® 10 support added.

NDIS 6 version of cifXNDIS to support Windows® 10.

For detailed changes, see \Driver and Toolkit\Device Driver (NXDRV-WIN)\driver\_history.txt.

### **USB SPM Driver**

USB SPM Driver added.

The USB SPM Driver (serial dual-port memory via USB) offers access via the host interface to the device. The USB SPM Driver can be used with comX communication module on a COMXEB evaluation board.

### **Toolkit**

Updated version.

For detailed changes, see \Driver and Toolkit\Driver Toolkit (NXDRV-TKIT)\cifXToolkit\version\_history.txt.

## 2.3 Configuration software and tools

### **SYCON.net**

SYCON.net was updated from V1.360.140808.12914 to V1.400.170125.19044.

Windows® 10 is supported.

PROFINET IO IRT Controller DTM and Topology Editor added to configure the PROFINET IO Controller for IRT communication.

### **netX Configuration Tool**

Windows® 10 is supported.



## 2.4 Documentation

### **User manual COMX**

The COMX user manual updated to revision 6. The main changes are

- PROFINET IO Controller V3 added.
- EtherCAT Master V4 added.
- LED descriptions added respectively revised.
- Technical data added respectively updated.

### **User Manual Software Installation**

User Manual "Software Installation comX and netJACK" updated and Windows® 10 support added.

### **Operating instructions**

All operating instructions manuals for SYCON.net updated to Windows® 10.

### **Protocol API**

CANopen Master Protocol API updated.

CANopen Slave Protocol API updated.

CC-Link Slave Protocol API updated.

DeviceNet Master Protocol API updated.

DeviceNet Slave Protocol API updated.

EtherCAT Master V4 Protocol API added.

EtherCAT Slave Protocol API updated.

EtherNet/IP Scanner Protocol API updated.

EtherNet/IP Adapter Protocol API updated.

Open Modbus/TCP Protocol API updated.

POWERLINK Controlled Node V3 Protocol API added.

PROFINET IO Controller V3 Protocol API added.

PROFINET IO Device Protocol API updated.

Sercos Slave Protocol API updated.

### **Application note**

Application note: EtherNet/IP Adapter CIP Sync added.

# Contacts

## HEADQUARTERS

### Germany

Hilscher Gesellschaft für  
Systemautomation mbH  
Rheinstrasse 15  
D-65795 Hattersheim  
Phone: +49 (0) 6190 9907-0  
Fax: +49 (0) 6190 9907-50  
E-Mail: [info@hilscher.com](mailto:info@hilscher.com)

### Support

Phone: +49 (0) 6190 9907-99  
E-Mail: [de.support@hilscher.com](mailto:de.support@hilscher.com)

## SUBSIDIARIES

### China

Hilscher Systemautomation (Shanghai) Co. Ltd.  
200010 Shanghai  
Phone: +86 (0) 21-6355-5161  
E-Mail: [info@hilscher.cn](mailto:info@hilscher.cn)

### Support

Phone: +86 (0) 21-6355-5161  
E-Mail: [cn.support@hilscher.com](mailto:cn.support@hilscher.com)

### France

Hilscher France S.a.r.l.  
69500 Bron  
Phone: +33 (0) 4 72 37 98 40  
E-Mail: [info@hilscher.fr](mailto:info@hilscher.fr)

### Support

Phone: +33 (0) 4 72 37 98 40  
E-Mail: [fr.support@hilscher.com](mailto:fr.support@hilscher.com)

### India

Hilscher India Pvt. Ltd.  
Pune, Delhi, Mumbai  
Phone: +91 8888 750 777  
E-Mail: [info@hilscher.in](mailto:info@hilscher.in)

### Italy

Hilscher Italia S.r.l.  
20090 Vimodrone (MI)  
Phone: +39 02 25007068  
E-Mail: [info@hilscher.it](mailto:info@hilscher.it)

### Support

Phone: +39 02 25007068  
E-Mail: [it.support@hilscher.com](mailto:it.support@hilscher.com)

### Japan

Hilscher Japan KK  
Tokyo, 160-0022  
Phone: +81 (0) 3-5362-0521  
E-Mail: [info@hilscher.jp](mailto:info@hilscher.jp)

### Support

Phone: +81 (0) 3-5362-0521  
E-Mail: [jp.support@hilscher.com](mailto:jp.support@hilscher.com)

### Korea

Hilscher Korea Inc.  
Seongnam, Gyeonggi, 463-400  
Phone: +82 (0) 31-789-3715  
E-Mail: [info@hilscher.kr](mailto:info@hilscher.kr)

### Switzerland

Hilscher Swiss GmbH  
4500 Solothurn  
Phone: +41 (0) 32 623 6633  
E-Mail: [info@hilscher.ch](mailto:info@hilscher.ch)

### Support

Phone: +49 (0) 6190 9907-99  
E-Mail: [ch.support@hilscher.com](mailto:ch.support@hilscher.com)

### USA

Hilscher North America, Inc.  
Lisle, IL 60532  
Phone: +1 630-505-5301  
E-Mail: [info@hilscher.us](mailto:info@hilscher.us)

### Support

Phone: +1 630-505-5301  
E-Mail: [us.support@hilscher.com](mailto:us.support@hilscher.com)